

Publications (Year 2015 onwards):

A. Number of Papers published in peer reviewed journals (national / international)

YEAR OF PUBLICATION: 2015

1. Studies on multifunctional behaviour of Cr doped SrWO₄ Compounds
M Muralidharan, V Anbarasu, AE Perumal, K Sivakumar
Journal of Materials Science: Materials in Electronics, 26(9), 6926-6938,2015
2. Band gap tailoring and enhanced ferromagnetism in Yb doped SrWO₄ scheelite structured system
M Muralidharan, V Anbarasu, AE Perumal, K Sivakumar
Journal of Materials Science: Materials in Electronics, 26 (9), 6875-6886,2015
3. Carrier mediated ferromagnetism in Cr doped SrTiO₃ compounds
M Muralidharan, V Anbarasu, AE Perumal, K Sivakumar
Journal of Materials Science: Materials in Electronics, 26 (9), 6352-6365, 2015
3. Enhanced Visible Photoluminescent and Structural Properties of ZnO/KIT-6 Nanoporous Materials for White Light Emitting Diode (w-LED) Application
B Sathyaseelan, E Manikandan, K Sivakumar, J Kennedy, M Maaza
Journal of Alloys and Compounds, 651, 479-482, 2015
4. A dihydrogen phosphate anionic network as a host lattice for cations in 1-methylpiperazine-1,4-dium bis(dihydrogen phosphate) and 2-(pyridin-2-yl) pyridinium dihydrogen phosphate-orthophosphoric acid (1/1)
R Jagan, D Sathya, K Sivakumar
Acta Crystallographica Section C: Structural Chemistry, 71(5), 374-380, 2015
5. From monomers to polymers: steric and supramolecular effects on dimensionality of coordination architectures of heteroleptic mercury (II) halogenide-tetradentate Schiff base complexes
AA Khandari, AFG Mahmoudi, V Stilinovic, MS Gargari, A Bauzá, G Zaragoza, W Kaminsky, V Lynch, DC Lazarte, K. Sivakumar
CrystEngComm, 17, 3493-3502 2015
6. Near Band Edge Emission by Free Exciton Decay and Intrinsic Ferromagnetic Ordering of Cu-Doped SnO₂ Hollow Nanofibers
P Mohanapriya, N.Victor Jaya
Journal of Nanoscience and Nanotechnology, 15(3), 2226-2233,205
8. Effect of nanofiller CeO₂ on structural, conductivity,and dielectric behaviors of plasticized blend nanocomposite polymer electrolyte
T.Mohamed Ali, N Padmanathan, S Selladurai
Ionics, 21(3), 829–840, 20152015

9. Fabrication and performance evaluation of symmetrical supercapacitor based on manganese oxide nanorods–PANI composite
AN Naveen, S Selladurai
Materials Science in Semiconductor Processing, 40, 468-478, 2015
10. Pseudocapacitance of α -CoMoO₄ nanoflakes in non-aqueous electrolyte and its bi-functional electro catalytic activity for methanol oxidation
N Padmanathan, H Shao, S Selladurai, C Glynn, C O'Dwyer, KM Razeeb
International Journal of Hydrogen Energy, 40(46), 16297-16305, 2015
11. Cobalt oxide (Co₃O₄)/graphene nanosheets (GNS) composite prepared by novel route for supercapacitor application
AN Naveen, P Manimaran, S Selladurai
Journal of Materials Science: Materials in Electronics, 26(11), 8988-9000, 2015
12. NiO hybrid nanoarchitecture-based pseudocapacitor in organic electrolyte with high rate capability and cycle life
N Padmanathan, S Selladurai, KM Rahulan, C O'Dwyer, KM Razeeb
Ionics, 21(9), 2623-2631, 2015
13. Novel low temperature synthesis and electrochemical characterization of mesoporous nickel cobaltite reduced graphene oxide (RGO) composite for supercapacitor application
AN Naveen, S Selladurai
Electrochimica Acta, 173, 290-301, 2015
14. Tailoring structural, optical and magnetic properties of spinel type cobalt oxide (Co₃ O₄) by manganese doping
AN Naveen, S Selladurai
Physica B: Condensed Matter, 457, 251-262, 2015
15. A 1-D/2-D hybrid nanostructured manganese cobaltite–graphene nanocomposite for electrochemical energy storage
AN Naveen, S Selladurai
RSC Advances, 5(80), 65139-65152, 2015
16. Ultra-fast rate capability of a symmetric supercapacitor with a hierarchical Co₃ O₄ nanowire/nanoflower hybrid structure in non-aqueous electrolyte
N Padmanathan, S Selladurai, KM Razeeb
RSC Advances, 5(17), 12700-12709, 2015
17. Tuning the composition and magnetostructure of dysprosium iron garnets by Co-substitution: An XRD, FT-IR, XPS and VSM study
R Tholkappiyan, K Vishista
Applied Surface Science, 351, 1016-1024, 2015
18. Gripe water-mediated green synthesis of silver nanoparticles and their applications in nonlinear optics and surface-enhanced Raman spectroscopy
E Kirubha, K Vishista, PK Palanisamy
Applied Nanoscience, 5(7), 777-786, 2015

19. Synthesis, Structural, Magnetic and XPS Studies of Garnet Type-Dysprosium Iron Oxides by Glycine-Assisted Combustion Method
R Tholkappiyan, K Vishista
Nanoscience and Nanotechnology Letters, 7(6), 469-475, 2015
20. Unique sharp photoluminescence of size-controlled sonochemically synthesized zirconia nanoparticles
D Manoharan, A Loganathan, K.Vishista, N.Victor Jaya
Ultrasonics sonochemistry, 23, 174-184, 2015
21. Structural, optical and magnetic properties of nanocrystalline zinc ferrite particles from glycine assisted combustion: Effect of Sr²⁺ dopant
R Tholkappiyan, K Vishista
International Journal of Materials Research, 106(2), 127-136, 2015
22. Combustion synthesis of Mg–Er ferrite nanoparticles: Cation distribution and structural, optical, and magnetic properties
R Tholkappiyan, K Vishista
Materials Science in Semiconductor Processing, 40, 631-642, 2015
23. Investigation on spinel MnCo₂O₄ electrode material prepared via controlled and uncontrolled synthesis route for supercapacitor application
R T Tholkappiyan, AN Naveen, S Sumithra, K Vishista
Journal of Materials Science, 50(17), 5833-5843, 2015
24. Synthesis, growth, structure and nonlinear optical properties of a semiorganic 2-carboxy pyridinium dihydrogen phosphate single crystal
P Nagapandiselvi, C Baby, R Gopalakrishnan
Optical Materials, 47, 398-405, 2015
25. Effect of substrate temperature on Copper Antimony Sulphide thin films from thermal evaporation
R Suriakarthick, VN Kumar, T.S.Shyju, R Gopalakrishnan
Journal of Alloys and Compounds, 651, 423-433, 2015
26. Physicochemical, electrical and optical studies of Methyl–3-(2-furylmethylenedine carbazate single crystal
G.Gomathi and R. Gopalakrishnan
Bulletin of Materials Science, 38(6), 1411-1417, 2015
27. Growth and Characterisation of Nonlinear Optical Single Crystals: Bis(Cyclohexylammonium) Terephthalate and Cyclohexylammonium Para-Methoxy Benzoate
P. Sathya, M. Anantharaja, N. Elavarasu and R. Gopalakrishnan
Bulletin of Materials science, 38(5), 1291-1299, 2015
28. Substitution effect on chalcone based materials for corrosion and photocrosslinking applications
V.Ramkumar, S.Anandhi, P.Kannan, R.Gopalakrishnan
RSC Advances, 5(1), 586-596, 2015

29. Effect of precursor concentration on the properties and tuning of conductivity between p-type and n type of Cu₁-XCdXS₂ thin films deposited by single step solution process as a novel material for photovoltaic application
V. Nirmal Kumar, R. Suryakarthick, S. Karuppusamy, Mukul Gupta, Y. Hayakawa, R. Gopalakrishnan
RSC Advances, 5, 23015–23021, 2015
30. Self-assembled supramolecular structure of 1-Methyl piperazinium 4-nitrophenolate 4-nitrophenol monohydrate single crystal: Synthesis, growth, thermal and photophysical properties
P. Nagapandiselvi, C. Baby, R. Gopalakrishnan
Spectrochimica Acta part A : Molecular and Biomolecular spectroscopy, 147, 270-279, 2015
31. Mechano-synthesis, Deposition and Characterization of CZTS and CZTSe Materials for Solar Cell Applications
T. S. Shyju, S. Anandhi, R. Suriakarthick, R. Gopalakrishnan, P. Kuppusami
Journal of Solid State Chemistry, 227, 165-177, 2015
32. A bluish – green emitting organic compound Methyl 3-[(E)-(2-hydroxy-1-naphthyl)methylidene]carbazate: Spectroscopic, thermal, fluorescence, antimicrobial and molecular docking studies
G. Gomathi, T. Srinivasan, D. Velmurugan, R. Gopalakrishnan
RSC Advances, 5, 44742–44748, 2015
33. Tuning the morphology of metastable MnS films by simple chemical bath deposition technique
T. Dhandayuthapani, M. Girish, R. Sivakumar, C. Sanjeeviraja, R. Gopalakrishnan
Applied Surface Science, 353, 449–458, 2015
34. Synthesis of reduced graphene oxide–copper tin sulphide composites and their photoconductivity enhancement for photovoltaic applications
M. Kamalanathan, S. Karuppusamy, R. Sivakumar and R. Gopalakrishnan
J Mater Sci, 50, 8029–8037, 2015
35. Fabrication and performance study of Electro-optical Modulator and Third order nonlinearity using unidirectional method (Sankaranarayanan –Ramasamy) grown Imidazolium L-tartrate <010> single crystal
N. Elavarasu, S. Karuppusamy, S. Muralidharan, M. Anantharaja, R. Gopalakrishnan,
Optical Materials, 46, 141–148, 2015
36. Characterization of 1,5-dimethoxynaphthaene by Vibrational spectroscopy (FT-IR and FT-Raman) and density functional theory calculations
M. Kandasamy, G. Velraj, S. Kalaichelvan and G. Mariappan
Spectrochimica Acta Part-A: Molecular and Biomolecular Spectroscopy, 134, 191-199, 2015
37. Investigation of structure, vibrational, electronic, NBO and NMR analyses of 2-chloro-4-nitropyridine (CNP), 2-chloro-4-methyl-5-nitropyridine (CMNP) and 3-amino-2-chloro-4-methylpyridine (ACMP) by experimental and theoretical approach

G.Velraj, S.Soundharam and Sridevi
Spectrochimica Acta Part-A: Molecular and Biomolecular Spectroscopy, 137, 790-803,
2015

38. Effect of nano-composite on polyvinyl alcohol-based proton conducting membrane for direct methanol fuel cell applications
P. Bahavan Palani, R.Kannan, S. Rajashabala, S.Rajendran and G. Velraj
Ionics, 21, 507-513, 2015
39. Spectroscopic and statistical approach of archaeological artifacts recently excavated from Tamilnadu, South India
D Seetha, G Velraj
Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 149(5), 59–68,
2015
40. Influence of generalized external potentials on nonlinear tunneling of nonautonomous solitons: Soliton management
A Mahalingam, MSM Rajan
Optical Fiber Technology, 25, 44-50, 2015
41. Investigation on nonautonomous soliton management in generalized external potentials via dispersion and nonlinearity
S Vijayalekshmi, MSM Rajan, A Mahalingam, A Uthayakumar
Indian Journal of Physics, 89(9), 957-965, 2015
42. Numerical investigation of dark soliton switching in asymmetric nonlinear fiber couplers
A Govindaraji, A Mahalingam, A Uthayakumar
Applied Physics B, 120(2), 341-348, 2015
43. Nonautonomous solitons in modified inhomogeneous Hirota equation: soliton control and soliton interaction
MSM Rajan, A Mahalingam
Nonlinear Dynamics, 79(4), 2469-2484, 2015
44. Hidden possibilities in soliton switching through tunneling in erbium doped birefringence fiber with higher order effects
S Vijayalekshmi, MS Mani Rajan, A Mahalingam, A Uthayakumar
Journal of Modern Optics, 62(4), 278-287, 2015
45. Synthesis, linear optical, non-linear optical, thermal and mechanical characterizations of dye-doped semi-organic NLO crystals
N Sesha Bamini, Y Vidyalakshmy, Tenzin Choedak, N Kejalakshmy, P Muthukrishnan, CJ Ancy
Materials Research Express, 2(6), 065010, 2015
46. Synthesis, growth, structural, thermal and optical studies of pyrrolidinium-2-carboxylate-4-nitrophenol single crystals
N Swarna Sowmya, S Sampathkrishnan, Y Vidyalakshmi, S Sudhahar, R Mohan Kumar

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 145, 333-339, 2015

47. Synthesis, growth and spectral, optical and thermal characterization studies on L-Tryptophan p-nitrophenol (LTPN) single crystals for NLO applications
P Suresh, S Janarthanan, RS Samuel, AJ Lenus, C Shanthi
Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 135, 732-735, 2015
48. Investigation on the crystal growth and characterization of an organometallic non-linear optical crystal-Antimony potassium tartrate
Merline, G.K.P., Chitra, M., Krishnan, P.
Optik - International Journal for Light and Electron Optics, 126(24),5339–5341, 2015
49. Sol-gel synthesis and luminescence characteristics of $\text{Sr}(3?(2x+y))\text{MgSi}_2\text{O}_8:(\text{Ce}^{3+},\text{Li}^+)x, \text{Eu}^{2+}$ phosphor for solid state lighting
P Thiyagarajan, R Sivakami
Optical Materials, 44, 1-8, 2015
50. Influence of doping group I elements on structural, optical and magnetic properties of nanocrystalline ZnO
J Sivasankari, S Sankar, L Vimala Devi
Journal of Materials Science: Materials in Electronics, 26(10), 8089-8096, 2015
51. Electronic, Thermal, and Superconducting Properties of Metal Nitrides (MN) and Metal Carbides (MC)(M= V, Nb, Ta) Compounds by First Principles Studies
G Subhashree, S Sankar, R Krithiga
Zeitschrift für Naturforschung A, 70(9), 721-728, 2015
51. An ab initio approach on superconducting properties of Mo_3X (X= Si, Ga, Ge) compounds
G Subhashree, S Sankar, R Krithiga
Modern Physics Letters B, 29(18), 1550094, 2015
52. Annealing temperature dependent on the synthesis and characterization of $\text{ZrO}_2@ \text{ZnO}$ coated ZrO_2 core-shell microspheres.
N Selvi, S Sankar, K Dinakaran
High Temperatures--High Pressures, 44(4), 285-296, 2015
53. The electronic, thermal and superconducting properties of ZrX_2 alloys (X= V, Re, and Os): an ab initio study.
VS Sathya Kumari, S Sankar, K Mahalakshmi
High Temperatures--High Pressures, 44(3),227-236, 2015
54. Palladium nanoparticle anchored polyphosphazene nanotubes: preparation and catalytic activity on aryl coupling reactions
V Devi, AA Kumar, S Sankar, K Dinakaran
Bulletin of Materials Science, 38(3), 607-610, 2015

55. Effect of shell ZnO on the structure and optical property of TiO₂ core@ shell hybrid nanoparticles
N Selvi, S Sankar, K Dinakaran
Journal of Materials Science: Materials in Electronics, 26(4), 2271-2277, 2015
56. Ab initio studies of thermal and superconducting properties of Ti₃M intermetallic compounds (M= Au, Pt and Ir).
VS Sathyakumar, S Sankar, K Mahalakshmi
High Temperatures--High Pressures, 44(2),125-136,2015
57. Electronic, thermal and superconducting properties of metallic CuS₂ compound with pyrite structure: An ab initio study.
K Mahalakshmi, S Sankar, VS Sathyakumari
High Temperatures--High Pressures, 44(1),25-31, 2015
58. Effect of phase transition on tungsten nitride: a first principle study
G Subhashree, S Sankar, R Krithiga
High Temperatures-High Pressures, 44(5), 383-391, 2015
59. Interfacial effect: magnetism in pure ZrO₂, ZnO and SiO₂ coated core/shell/shell hybrid nanoparticles
N Selvi, S Sankar, K Dinakaran
Journal of Materials Science: Materials in Electronics, 26(1), 273-279, 2015
60. Phase formation and photoluminescence properties of Sm³⁺ doped Al₅BO₉ phosphor
RS Kumar, V Ponnusamy
Optik-International Journal for Light and Electron Optics, 126(11), 1224-1227, 2015
61. Influence of Cr substitution on structural, magnetic and electrical conductivity spectra of LaFeO₃
APB Selvadurai, V Pazhanivelu, C Jagadeeshwaran, R Murugaraj
Journal of Alloys and Compounds, 646, 924-931, 2015
62. Investigation of structural and optical spectroscopy of 5% Pr doped (Bi_{0.5}Na_{0.5})TiO₃ ferroelectric ceramics: site depended study
APB Selvadurai, V Pazhnivelu, BK Vasanth, C Jagadeeshwaran
Journal of Materials Science: Materials in Electronics, 26(10), 7655-7665, 2015
63. Strain correlated effect on structural, magnetic, and dielectric properties in Ti⁴⁺ substituted Bi_{0.8}Ba_{0.2}Fe_{1-x}Ti_xO₃
APB Selvadurai, V Pazhanivelu, R Murugaraj
Solid State Sciences, 46, 71-79, 2015
64. Sintering Effect on Structural, Optical and Unusual Magnetic Behaviour in Zn_{0.95}
V Pazhanivelu, APB Selvadurai, R Murugaraj
Journal of Superconductivity and Novel Magnetism, 28(8), 2575-2581, 2015
65. Unexpected ferromagnetism in 1st group elements doped ZnO based DMS nanoparticles
V Pazhanivelu, APB Selvadurai, R Murugaraj

Materials Letters, 151, 112-114, 2015

66. A phenomenal behaviour of nanocrystalline NiFe₂O₄: influence of secondary and parasitic phases on structure and magnetic property
APB Selvadurai, V Pazhanivelu, R Murugaraj
Applied Physics A, 119(1), 299-307, 2015
67. Temperature-induced delocalization of charge carriers and semiconductor to metal-like phase in SrFeO_{3-d}
P Manimuthu, R Murugaraj, C Venkateswaran
Applied Physics A, 119(1), 359-364, 2015
68. Studies of nanoindentation and residual stress analysis of Ge/GaAs epilayers
PJ Sophia, E Buffagni, D Geetha, D Arivuoli, M Bosi, C Ferrari, G Attolini
Semiconductor Science and Technology, 30(5), 055004, 2015

YEAR OF PUBLICATION: 2016

1. Structural, optical and morphological properties of post-growth calcined TiO₂ nanopowder for opto electronic device application: Ex-situ studies
B Sathyaseelan, E Manikandan, V Lakshmanan, I Baskaran, K Sivakumar
Journal of Alloys and Compounds, 671, 486-492, 2016
2. Enhanced ferromagnetism in Cr doped SrMoO₄ scheelite structured compounds
M Muralidharan, V Anbarasu, AE Perumal, K Sivakumar
Journal of Materials Science: Materials in Electronics, 27(3), 2545-2556, 2016
3. Anion assisted supramolecular self-assemblies of succinate and malate adducts: crystal structures and theoretical modelling
R Padmavathy, N Karthikeyan, D Sathya, R Jagan, RM Kumar, K.Sivakumar
RSC Advances, 6 (72), 68468-68484, 2016
4. Investigation of magnetic and structural properties of copper substituted barium ferrite powder particles via co-precipitation method
S Vadivelan, N.Victor Jaya
Results in Physics, 6, 843-850, 2016
5. Attestation in self-propagating combustion approach of spinel AFe₂O₄ (A= Co, Mg and Mn) complexes bearing mixed oxidation states: Magnetostructural properties
J Bennet, R Tholkappiyan, K Vishista, N.Victor Jaya, F Hamed
Applied Surface Science, 383, 113-125, 2016
6. Band gap tuning and room temperature ferromagnetism in Co doped Zinc stannate nanostructures
S Sumithra, N.Victor Jaya
Physica B: Condensed Matter, 493, 35-42, 2016
7. Structural, optical and high pressure electrical resistivity studies of pure NiO and Cu-doped NiO nanoparticles
MA Marselin, N.Victor Jaya

International Journal of Modern Physics B, 30(10), 1650056, 2016

7. Defect structure and optical phonon confinement in ultrananocrystalline $\text{Bi}_x\text{Sn}_{1-x}\text{O}_2$ ($x= 0, 0.03, 0.05, \text{ and } 0.08$) synthesized by a sonochemical method
L Aswaghosh, D Manoharan, N. Victor Jaya
Physical Chemistry Chemical Physics, 18(8), 5995-6004, 2016
8. Novel synthesis of highly porous three-dimensional nickel cobaltite for supercapacitor application
AN Naveen, S Selladurai
Ionics, 22(8), 1471-1483, 2016
9. Different types of synchronization in coupled network based chaotic circuits
K Srinivasan, VK Chandrasekar, RG Pradeep, K Murali, M Lakshmanan
Communications in Nonlinear Science and Numerical Simulation, 39, 156-168, 2016
10. Chimera states in Star Networks
C Meena, K Murali, S Sinha
International Journal of Bifurcation and Chaos, 26(09), 1630023 (2016)
11. Explicit construction of single input–single output logic gates from three soliton solution of Manakov system
M Vijayajayanthi, T Kanna, M Lakshmanan, K Murali
Communications in nonlinear science and numerical simulation, 36, 391-401, 2016
12. Electronic structure and magnetic properties of chalcopyrite type ZnMX_2 ($M= \text{Sc, V, Cr, Mn, Fe; X= P, As}$) compounds: An ab initio study
D Vijayalakshmi, G Kalpana
Physica Status Solidi B, 253(8), 1576-1584, 2016
13. Systematic study on surface and magnetostructural changes in Mn-substituted dysprosium ferrite by hydrothermal method
G Rekha, R Tholkappiyan, K Vishista, F Hamed
Applied Surface Science, 385, 171-181, 2016
14. The effect of induced strains on the optical band gaps in lanthanum-doped zinc ferrite nanocrystalline powders
F Hamed, T Ramachandran, K. Vishista
Modern Physics Letters B, 30(18), 1650230, 2016
15. Characterization of Sm Doped CaO Phosphor Prepared by Co Precipitation Method
R Tholkappiyan, LM Azarudeen, GA Kumar, K Vishista
Advanced Science, Engineering and Medicine, 8(1), 57-61, 2016
17. Effect of Ag doping on structural, optical and photocatalytic activity of tungsten oxide (WO_3) nanoparticles
S. Mohammed Harshulkhan, K. Janaki, G. Velraj, R. Sakthi Ganapathy and M. Nagarajan
Journal of Materials Science: Materials in Electronics, 27(5), 4744-4751, 2016

18. Structural and optical properties of Ag doped tungsten oxide (WO₃) by microwave-assisted chemical route
S. Mohammed Harshulkhan, K. Janaki, G. Velraj, R. Sakthi Ganapathy and S. Krishnaraj
Journal of Materials Science: Materials in Electronics, 27(4), 3158-3163, 2016
19. Chemical analysis of archaeological claypotteries by PIGE and PIXE methods using proton beams from tandem accelerator for provenance study
S.Tamilarasu, G.Velraj, D.K.Ray and R.Achraya
Journal of Radioanalytical and Nuclear Chemistry, 310(1), 363-370, 2016
20. Investigation on structural and electrical properties of FeCl₃ doped polythiophene (PT) blended with micro and nano copper particles by mechanical mixing
C. Shanmugapriya and G.Velraj
Optik, 127(20), 8940-8950, 2016
21. Structural, spectroscopic (FT-IR, FT-Raman, NMR) and computational analysis (DOS, NBO, Fukui) of 3,5 dimethylisoxazole and 4-(chloromethyl)-3,5-dimethylisoxazole: A DFT study
T.Kavitha and G.Velraj
Journal of Theoretical and Computational Chemistry, 15, 1-28, 2016.
22. Characterization and chemometric analysis of ancient pots shards trenched from Arpakkam, Tamil Nadu, India
Seetha.D and G.Velraj
Journal of applied research and technology, 14, 345-353, 2016
23. High power diode laser surface melting of SUS 420F steel: investigations on the microstructural, and mechanical properties
N Sivanandham, A Rajadurai, SM Shariff, J Senthilselvan, A Mahalingam
International Journal of Surface Science and Engineering, 10(1), 11-26, 2016
24. Interaction dynamics of bright solitons in linearly coupled asymmetric systems
A Govindaraji, A Mahalingam, A Uthayakumar
Optical and Quantum Electronics, 48(12), 563, 2016
25. Nature of Legendre Foretold By Pascal
P R Subramanian, B V Jenisha, A Jestin Lenus
Physics Education, 32, 1-13, 2016
26. Synthesis and luminescence properties of ZnS: Ce³⁺, Li⁺, Mn²⁺ nanophosphors
R Sivakami, P Thiyagarajan
Nano-Structures & Nano-Objects, 6, 59-66, 2016
27. The effect of citric acid on morphology and photoluminescence properties of white light emitting ZnO–SiO₂ nanocomposites
P Thiyagarajan, R Sivakami
Photonics & Nanostructures - Fundamentals and Applications, 20, 31-40, 2016
28. F-Center-Mediated Ferromagnetic Ordering in K-Doped ZnO

- Krithiga, R, Sankar, S, & Arunkumar, V
Journal of Superconductivity and Novel Magnetism, 29, 245–251, 2016
29. Structural, magnetic and electrical analysis of $\text{La}_{1-x}\text{Nd}_x\text{CrO}_3$ ($0.00 < x < 0.15$): synthesised by sol–gel citrate combustion method
APB Selvadurai, V Pazhanivelu, C Jagadeeshwaran, R Murugaraj
Journal of Sol-Gel Science and Technology, 80(3), 827-839, 2016
30. Disorder induced conductivity enhancement in SHI irradiated undoped and N-doped 6H-SiC single crystals
K Sivaji, E Viswanathan, S Sellaiyan, R Murugaraj, D Kanjilal
Journal of Materials Science: Materials in Electronics, 27(11), 11825-11833, 2016
31. Influence of Co ions doping in structural, vibrational, optical and magnetic properties of ZnO nanoparticles
V Pazhanivelu, APB Selvadurai, R Murugaraj, IP Muthuselvam, FC Chou
Journal of Materials Science: Materials in Electronics, 27(8), 8580-8589, 2016
32. Structural, optical and intrinsic defects induced magnetic properties of the ZnO: Fe nanoparticles
V Pazhanivelu, APB Selvadurai, R Kannan, R Murugaraj
Journal of Materials Science: Materials in Electronics, 27(6), 5549-5556, 2016
33. Room temperature ferromagnetism in 1st group elements codoped ZnO: Fe nanoparticles by co-precipitation method
V Pazhanivelu, APB Selvadurai, R Kannan, R Murugaraj
Physica B: Condensed Matter, 487, 102-108, 2016
34. 1st group elements codoping effects on magnetic behavior in ZnO: Cu nanoparticles
V Pazhanivelu, APB Selvadurai, M Kumaresavanji, R Murugaraj
Materials Letters, 166, 304-306, 2016
35. Effect of 1st group elements codoping on structural, optical and magnetic properties of ZnO: Co nanoparticles
V Pazhanivelu, APB Selvadurai, R Murugaraj
Journal of Materials Science: Materials in Electronics, 27(3), 2896-2903, 2016
36. Zn interstitial defects induced room temperature ferromagnetism in Na^+ ions codoped $\text{Zn}_{0.95}\text{Co}_{0.05}\text{O}$ powders
V Pazhanivelu, APB Selvadurai, R Murugaraj
Journal of Materials Science: Materials in Electronics, 27(2), 1144-1150, 2016
37. Room temperature ferromagnetism in Mn doped ZnO: Co nanoparticles by co-precipitation method
V Pazhanivelu, APB Selvadurai, Y Zhao, R Thiyagarajan, R Murugaraj
Physica B: Condensed Matter, 481, 91-96, 2016
38. Evaluation of microindentation properties of epitaxial 3C–SiC/Si thin films
Geetha, D, Sophia, PJ, & Arivuoli, D
Physica B: Condensed Matter. 490, 86-89, 2016

39. Influence of doping on the nanomechanical behavior of InGaP/Ge thin films
PJ Sophia, D Geetha, M Bosi, G Attolini, E Buffagni, C Ferrari
Materials Letters, 171, 95-99, 2016
40. Photoluminescence and Optical Constant Studies of Benzophenon-An Organic Single Crystal
Ramajothi, J, & Muraleedharan, R
Res J. Chem. Environ. Sci. 4(5), 7-14, 2016
41. A hydrazone Schiff base single crystal (E)-Methyl N'-(3,4,5-trimethoxybenzylidene) hydrazine carboxylate: Physicochemical, in vitro investigation of antimicrobial activities and molecular docking with DNA gyrase protein
G.Gomathi and R.Gopalakrishnan
Materials Science and Engineering C, 64, 133–138, 2016
42. Thermal kinetic and dielectric parameters of acenaphthene crystal grown by vertical Bridgman technique
S.Karuppusamy, K.Dinesh Babu, V.Nirmal Kumar, R.Gopalakrishnan
Appl. Phys. A, 122, 498, 2016

YEAR OF PUBLICATION: 2017

1. Tuned thermoelectric transport properties of $\text{Co}_2.0\text{Sb}_{1.6}\text{Se}_{2.4}$ and $\text{Co}_2.0\text{Sb}_{1.5}\text{M}_{0.1}\text{Se}_{2.4}$ (M= Zn, Sn): Compounds with high phonon scattering
N Karthikeyan, S Ghanta, S Misra, G Jaiganesh, PP Jana, K Sivakumar
Journal of Alloys and Compounds, 729, 303-312, 2017
2. Effect of trivalent transition metal ion substitution in multifunctional properties of Dy_2O_3 system
V Anbarasu, M Dhilip, KS Kumar, K Sivakumar
Journal of Materials Science: Materials in Electronics, 28 (12), 8976-8985, 2017
3. Molecular modelling of an organic salt 4- chloroanilinium hydrogen malonate (4CAHM): crystal structure, theoretical and Hirshfeld surface analysis
N Karthikeyan, D Sathya, R Padmavathy, K Sivakumar
Materials Research Innovations, 21 (5), 304-312, 2017
4. Thermoelectric properties of Se and Zn/Cd/Sn double substituted $\text{Co}_4\text{Sb}_{12}$ skutterudite compounds
N Karthikeyan, G Sivaprasad, G Jaiganesh, V Anbarasu, PP Jana
Physical Chemistry Chemical Physics, 19, 28116-28126, 2017
5. Room temperature ferromagnetism in Cr doped SrSnO_3 perovskite system
M Muralidharan, V Anbarasu, AE Perumal, K Sivakumar
Journal of Materials Science: Materials in Electronics, 28(5), 4125-4137, 2017
6. Studies on structural and optical properties of ZrO_2 nanopowder for opto-electronic applications
B Sathyaseelan, E Manikandan, I Baskaran, K Senthilnathan, K.Sivakumar
Journal of Alloys and Compounds, 694, 556-559, 2017

7. Effect of transition metal ion substitution on structural and magnetic properties of Eu₂O₃ sesquioxide system
V Anbarasu, M Dhillip, KS Kumar, K Sivakumar
Journal of Materials Science: Materials in Electronics, 28(16), 12197-12206, 2017
8. Oxygen vacancy-induced room temperature ferromagnetism in graphene–SnO₂ nanocomposites
K Thiyagarajan, K Sivakumar
Journal of Materials Science, 52(13), 8084-8096, 2017
9. Crystal structure, DFT study, hirshfeld surface and PIXEL energy calculations of benzimidazolium and hexadecylaminium hydrogen maleate salts
R Padmavathy, N Karthikeyan, D Sathya, R Jagan, RM Kumar
Journal of Molecular Structure, 1136, 144-156, 2017
10. Synthesis, Structural, Optical and Magnetic Properties of Pure NiO and NiO@ SiO₂ Core–Shell Nanospheres
S Sumithra, N.Victor Jaya
Journal of Superconductivity and Novel Magnetism, 30(5), 1129-1136, 2017
11. Enhanced Room Temperature Ferromagnetism in Fe-Doped Zinc Stannate Nanostructures Prepared by Facile Hydrothermal Method
S Sumithra, N.Victor Jaya
Journal of Superconductivity and Novel Magnetism, 30(7), 1883-1892, 2017
12. Cubic phase stabilization of Barium titanate nanorods by rapid quenching technique
Loganathan, A, Manoharan, D & Nesamony VJ
Materials Letters, 186, 305-307, 2017
13. Colloidal synthesis of copper cadmium sulphide (CuCdS₂) nanoparticles and its structural, optical and morphological properties
K Saravanan, R Suriakarthick, S Ananthakumar, S Moorthy Babu, S Selladurai
Materials Science in Semiconductor Processing, 66, 123-130, 2017
14. Lithium garnet oxide dispersed polymer composite membrane for rechargeable lithium batteries
P Buvana, K Vishista, D Shanmukaraj, R Murugan
Ionics, 23 (3), 541-548, 2017
15. Factors controlling phase formation of novel Sr-based Y-type hexagonal ferrite nanoparticles
R Tholkappiyan, K Vishista, F Hamed
Pramana, 88 (2), 27, 2017
16. Structural and Optical properties of Mg doped Tungsten oxide prepared by Microwave irradiation method
SM Harshulkhan, K Janaki, G Velraj, N Mohanasundaram
Journal of Materials Science: Materials in Electronics, 28(16), 11794-11799, 2017

16. Density functional theory analysis and molecular docking evaluation of 1-(2,5-dichloro-4-sulphophenyl)-3-methyl-5-pyrazolone as COX2 inhibitor against inflammatory diseases
T.Kavitha, G.Velraj
Journal of Molecular Structure, 1141, 335-345, 2017
17. First principle calculations on structural, electronic, and magnetic properties of Cd M As₂ (M= Sc, Ti, V) chalcopyrites
D Vijayalakshmi, G Kalpana
Canadian Journal of Physics, 95(11), 1031-1036, 2017
18. Symbolic computation on tunable nonautonomous solitons in inhomogeneous NLS system with generalized external potential
S Vijayalakshmi, A Mahalingam, MSM Rajan
Optik-International Journal for Light and Electron Optics, 145, 240-249, 2017
19. Propagation properties of optical soliton in an erbium-doped tapered parabolic index nonlinear fiber: soliton control
K Subramanian, T Alagesan, A Mahalingam, MSM Rajan
Nonlinear Dynamics, 87(3), 1575-1587, 2017
20. Modulational instability in linearly coupled asymmetric dual-core fibers
A Govindaraji, BA Malomed, A Mahalingam, A Uthayakumar
Applied Sciences - Basel, 7(7), 645, 2017
21. Microstructure, mechanical properties and corrosion resistance of laser surface melted EN353 low carbon low alloy steel
N Sivanandham, A Rajadurai, SM Shariff, J Senthilselvan, A Mahalingam
International Journal of Surface Science and Engineering, 11 (2), 118-132, 2017
22. Benzotriazole p-hydroxybenzoic acid: physicochemical and biological evaluation of an organic cocrystal
P Sathya, Y Vidyalakshmi, S Pugazhendhi, R Gopalakrishnan
Materials Research Innovations, 21(3), 182-188, 2017
23. Synthesis, defect characterization and photocatalytic degradation efficiency of Tb doped CuO nanoparticles
LV Devi, S Sellaiyan, T Selvalakshmi, HJ Zhang, A Uedono, K Sivaji, S.Sankar
Advanced Powder Technology, 28(11), 3026-3038, 2017
24. Effect of La doping on the lattice defects and photoluminescence properties of CuO.
Sellaiyan, S, Uedono, A, Sivaji, K, & Sankar, S.
Journal of Alloys and Compounds, 709, 496-504, 2017
25. Structural and optical characterization of Er-alkali-metals codoped MgO nanoparticles synthesized by solution combustion route.
Sivasankari, J, Sellaiyan, SS, Sankar, S, Devi, LV, & Sivaji, K.
Physica E: Low-dimensional Systems and Nanostructures, 85, 152-159, 2017

26. Preparation and Characterization of CNSR functionalized Fe₃O₄ magnetic nanoparticles: an efficient adsorbent for the removal of Cadmium ion from water.
Selvaraj, M, Selvam, P, Kumar, AA, Sankar, S, & Dinakaran, K.
Journal of Environmental Chemical Engineering, 5, 4539-4546, 2017
27. Mineralogical role on natural radioactivity content in the intertidal sands of Tamilnadu coast (HBRAs region), India
J Punniyakotti, V Ponnusamy
Journal of Radioanalytical and Nuclear Chemistry, 314(2), 949-959, 2017
28. Depth-wise distribution of ²³⁸U, ²³²Th and ⁴⁰K in sand samples of high background radiation areas (Tamilnadu coast), India
J Punniyakotti, V Ponnusamy
Journal of Radioanalytical and Nuclear Chemistry, 311(3), 1875-1881, 2017
29. Radionuclides of ²³⁸U, ²³²Th and ⁴⁰K in beach sand of southern regions in Tamilnadu State, India (Post-Tsunami)
J Punniyakotti, V Ponnusamy
Indian Journal of Pure and Applied Physics, 55, 218-230, 2017
30. An analysis on structural and magnetic properties of La_{1-x}RE_xFeO₃ (x= 0.0 and 0.5, RE= Nd, Sm and Gd) nanoparticles
A Paul Blessington Selvadurai, V Pazhanivelu, C Jagadeeshwaran, R Murugaraj, PM Mohammed Gazzali, G Chandrasekaran
Applied Physics A, 123(1), 13, 2017
31. Evaluation of nanoindentation and nanoscratch characteristics of GaN/InGaN epilayers.
Geetha, D, Sophia, PJ, Radhika, R, Arivuoli, D
Materials Science and Engineering: A, 683, 64-69, 2017

YEAR OF PUBLICATION: 2018

1. Thermoelectric properties of layered type FeIn₂Se₄ chalcogenide compound
N Karthikeyan, G Aravindsamy, P Balamurugan, K Sivakumar
Materials Research Innovations, 22(5), 278-281, 2018
2. Experimental, quantum chemical studies and Hirshfeld surface analysis on molecular structure of two pictrate salts: 1,4-diazabicyclo[2,2,2]octane and Furan-2yl methanamine
K Saminathan, S Athimoolam, N Karthikeyan, K Sivakumar
Journal of Molecular Structure, 1171, 127-139, 2018
3. Interfacial ferromagnetism in reduced graphene oxide–ZnO nanocomposites
K Thiyagarajan, M Muralidharan, K Sivakumar
Journal of Materials Science: Materials in Electronics, 29(9), 7442-7452, 2018
4. Thermoelectric transport investigations on Cd/In substituted β-Zn₄Sb₃ compounds
N Karthikeyan, G Jaiganesh, V Anbarasu, PP Jana, K Sivakumar
Materials Today Communications, 14, 128-134, 2018

5. Thermoelectric power factor of $\text{La}_{0.9}\text{M}_{0.1}\text{FeO}_3$ (M= Ca and Ba) system: Structural, band gap and electrical transport evaluations
N Karthikeyan, RR Kumar, G Jaiganesh, K Sivakumar
Physica B: Condensed Matter, 529, 1-8, 2018
6. Room temperature ferromagnetism in Graphene-ZnO nanocomposite
K Thiyagarajan, K Sivakumar
Materials Today: Proceedings, 5(8), 16684-16688, 2018
7. Defects Induced Magnetism in WO_3 and Reduced Graphene Oxide- WO_3 Nanocomposites
K Thiyagarajan, M Muralidharan, K Sivakumar
Journal of Superconductivity and Novel Magnetism, 31(1), 117-125, 2018
8. Structural, Optical, and Magnetic Properties of Gd-Doped TiO_2 Nanoparticles
N Nithyaa, N Victor Jaya
Journal of Superconductivity and Novel Magnetism, 31(12), 4117-4126, 2018
9. Tunable Optical Behaviour and Room Temperature Ferromagnetism of Cobalt-Doped BaSnO_3 Nanostructures
S Sumithra, N Victor Jaya
Journal of Superconductivity and Novel Magnetism, 31(9), 2777-2787, 2018
10. Structural, optical and magnetization studies of Fe-doped CaSnO_3 nanoparticles via hydrothermal route
S Sumithra, N Victor Jaya
Journal of Materials Science: Materials in Electronics, 29(5), 4048-4057, 2018
11. Facile synthesis of NiSnO_3 /graphene nanocomposite for high-performance electrode towards asymmetric supercapacitor device
PE Saranya, S Selladurai
J Mater Sci, 53, 16022-16046, 2018
12. Facile Synthesis of Self-Assembled Flower-Like Mesoporous Zinc Oxide Nanoflakes for Energy Applications
PE Saranya, S Selladurai
International Journal of Nanoscience, 17(01n02), 1760002, 2018
13. Efficient electrochemical performance of ZnMn_2O_4 nanoparticles with rGO nanosheets for electrodes in supercapacitor applications
PE Saranya, S Selladurai
Journal of Materials Science: Materials in Electronics, 29(4), 3326-3339, 2018
14. Chaotic attractor hopping yields logic operations
K Murali, S Sinha, V Kohar, B Kia, WL Ditto
PLoS ONE, 13(12), e0209037, 2018
15. Strange non-chaotic attractors in a state controlled-cellular neural network-based quasiperiodically forced MLC circuit

- PM Ezhilarasu, M Inbavalli, K Murali, K Thamilmaran
Pramana, 91(1), 4, 2018
16. Coupling induced logical stochastic resonance
K Murali, S Sinha
Physics Letters A, 382(24), 1581-1585, 2018
 17. Harnessing energy-sharing collisions of Manakov solitons to implement universal NOR and OR logic gates
M Vijayajayanthi, T Kanna, K Murali, M Lakshmanan
Physical Review E, 97(6), 060201, 2018
 18. Dynamics of Periodically Pulsed Driven Chua's Circuit
M Inbavalli, K Srinivasan, RG Pradeep, A Venkatesan, K Murali
Journal of Computational and Theoretical Nanoscience, 15(3), 854-858, 2018
 19. Reduced graphene oxide/strontium titanate heterostructured nanocomposite as sunlight driven photocatalyst for degradation of organic dye pollutants
A Rosy, G Kalpana
Current Applied Physics, 18(9), 1026-1033, 2018
 20. Influence of RGO/TiO₂ nanocomposite on photo-degrading Rhodamine B and Rose Bengal dye pollutants
A Rosy, G Kalpana
Bulletin of Materials Science, 41(3), 83, 2018
 21. Molecular structure, spectroscopic and docking analysis of 1, 3-diphenylpyrazole-4-propionic acid: A good prostaglandin reductase inhibitor
T Kavitha, G Velraj
Journal of Molecular Structure, 1155, 819-830, 2018
 22. Investigation on the electrochemical performance of hausmannite Mn₃O₄ nanoparticles by ultrasonic irradiation assisted co-precipitation method for ...
R Tholkappiyan, AN Naveen, K Vishista, F Hamed
Journal of Taibah University for Science, 12(5), 669-677, 2018
 23. Photocatalytic Activity of High Energy Ball Mill Derived (ZnO)_{1-x}(C)_x Nanocomposite
P Chandrasekar, K Vishista
Transactions of the Indian Institute of Metals, 71(8), 2051-2055, 2018
 24. Preparation and characterisation of pure and neodymium doped samarium strontium cobaltites
KR Arivukkarasu, S Venkatesh, N Karthikeyan, K Vishista
Materials Research Innovations, 1-6, 2018
 25. Influence of Grain and Grain Boundary Interfaces on Dielectric Relaxation of Ceria Nanocrystals Using Modulus Formalism Under Biased and Equilibrium Conditions
P Chandrasekar, SN Begum, K Vishista
Nanoscience and Nanotechnology Letters, 10(3), 389-395, 2018

26. Identification of the best chemical equivalent ratio to produce emeraldine salt exhibiting better pseudo capacitance
S Venkatesh, K Vishista
Electrochimica Acta, 263, 76-84, 2018
27. Influence of solvents on solvothermal synthesis of Cu₂SnS₃ nanoparticles with enhanced optical, photoconductive and electrical properties
M Kamalanathan, H Shamima, R Gopalakrishnan, K Vishista
Materials Technology, 33(2), 72-78, 2018
28. Investigation on optical, thermal, dielectric and mechanical properties of antimony potassium tartrate on L-alanine single crystals
G.K.Priya Merline, M.Chitra
Journal of Materials Science: Materials in Electronics, 29(7), 5509-5517, 2018
29. Formation of GaN thin film on silicon substrate by gallium oxide ammoniation
I Davis Jacob, M Chitra
Optik - International Journal for Light and Electron Optics, 171, 51–57, 2018
30. Luminescence properties of LiYF₄:Yb³⁺, Er³⁺ phosphors: A study on influence of synthesis temperature and dopant concentration
K. Janani, S.Ramasubramanian, Abhishek Kumar Sonic, Vineet Kumar Rai, P. Thiyagarajan
Optik - International Journal for Light and Electron Optics 169, 147–155, 2018
31. Vanadium sulfide/reduced graphene oxide composite with enhanced supercapacitance performance
N AbdulKalam, C Sengottaiyan, R Jayavel, K Ariga, RG Shrestha, T Subramani, S Sankar, L K Shrestha
Journal of the Taiwan Institute of Chemical Engineers 92, 72-79, 2018
32. Effects of transition metal element (Co, Fe, Ni) codoping on structural, optical and magnetic properties of CeO₂: Er nanoparticles
RN Bharathi, S Sankar
Superlattices and Microstructures, 123, 37-51, 2018
32. Investigation of Transport Properties of Pr Doped Cerium Oxide Nanoparticles as a Solid Electrolyte for IT-SOFC Applications
RN Bharathi, S Sankar
Journal of Inorganic and Organometallic Polymers and Materials, 28(5), 1829-1838, 2018
33. Structural, Optical, and Magnetic Properties of Nd-Doped CeO₂ Nanoparticles Codoped with Transition Metal Elements (Cu, Zn, Cr)
RN Bharathi, S Sankar
Journal of Superconductivity and Novel Magnetism, 31(8),2603-2615, 2018
34. Combustion derived Y doped CuO nanoparticle: its structural, morphological and optical properties
LV Devi, T Selvalakshmi, S Sellaiyan, S Sankar
Journal of Materials Science: Materials in Electronics, 29,9387--9396, 2018

35. Influence of thiourea on the synthesis and characterization of chemically deposited nano structured zinc sulphide thin films
V Padmavathy, S Sankar, V Ponnuswamy
Journal of Materials Science: Materials in Electronics, 29,7739-7749, 2018
36. Structural, optical and magnetic properties of Pr doped CeO₂ nanoparticles synthesized by citrate–nitrate auto combustion method
RN Bharathi, S Sankar
Journal of Materials Science: Materials in Electronics, 29(8), 6679-6691, 2018
37. Oxygen vacancies induced room temperature ferromagnetism in Li, Na and K co-doped ZnO synthesized by solution combustion technique
R Krithiga, N Selvi, G Subhashree, S Sankar
Journal of Materials Science: Materials in Electronics, 29(6), 5124-5133, 2018
38. Structural and optical investigation of combustion derived La doped copper oxide nanocrystallites
LV Devi, S Sellaiyan, S Sankar, K Sivaji
Materials Research Express, 5(2), 024002, 2018
39. Synthesis and emission properties of Y₂Si₂O₇:Eu³⁺ phosphor
OS Rajamohan, V Ponnusamy
Materials Research Innovations, 1-5, 2018
40. Environmental radiation and potential ecological risk levels in the intertidal zone of southern region of Tamil Nadu coast (HBRAs), India
J Punniyakotti, V Ponnusamy
Marine pollution bulletin, 127, 377-386, 2018
41. Investigations on the phase transition of Mn-doped BaTiO₃ multifunctional ferroelectric ceramics through Raman, dielectric, and magnetic studies
K Madhan, R Thiyagarajan, C Jagadeeshwaran, APB Selvadurai, V Pazhanivelu, K Aravinth, Weng Yang, R. Murugaraj
Journal of Sol-Gel Science and Technology, 88(3), 584-592, 2018
42. Size effect and order–disorder phase transition in MgAl₂O₄: synthesized by co-precipitation method
C Jagadeeshwaran, K Madhan, R Murugaraj
Journal of Materials Science: Materials in Electronics, 29(22), 18923-18934, 2018
43. Doping effect of alkali metal elements on the structural stability and transport properties of ZnO at high pressures
R Thiyagarajan, X Yan, V Pazhanivelu, APB Selvadurai, R Murugaraj, Weng Yang
Journal of Alloys and Compounds, 751, 266-274, 2018
44. Room temperature magnetic behaviour of Mn codoping in ZnO: Co nanoparticles synthesized by co-precipitation method
V Pazhanivelu, APB Selvadurai, R Murugaraj
Journal of Materials Science: Materials in Electronics, 29(4), 3087-3094, 2018

45. Nano-deformation behavior of silicon (100) film studied by depth sensing indentation and nanoscratch technique
D Geetha, R Pratyank, P Kiran
Mater. Res. Express, 5, 046407, 2018
46. Evaluation of structural and dielectric properties of Al, Ce co-doped cobalt ferrites
A Sathiya Priya, D Geetha, N Kavitha
Mater. Res. Express, 5, 066109, 2018

YEAR OF PUBLICATION: 2019

1. Near infrared emission and enhanced ferromagnetism in Fe doped SrSnO₃ perovskite structured nanorods
M Muralidharan, R Thiyagarajan, K Sivakumar, K Sivaji
Journal of Materials Science: Materials in Electronics, 30, 4634–4643, 2019.
2. Preferentially oriented CuCdS₂ thin films and thickness effects on structural, optical and electrical properties
K. Saravanan, S. Selladurai, P. Vengatesh and T. Shyju
Applied Physics A, 125, 5, 2019.
3. Solvothermal synthesis of copper cadmium sulphide (CuCdS₂) nanoparticles and its structural, optical and morphological properties
K. Saravanan, S. Selladurai, S. Ananthakumar, S. Moorthy Babu and R. Suriakarthick
Materials Science in Semiconductor Processing, 93, 345-356, 2019.
4. Linear and non-linear optical properties of spray deposited guanidine carbonate thin films
K. Dinesh Babu, P. Philominathan and K. Murali
Optik, 186, 350-362, 2019.
5. Investigation of optical limiting and third-order optical nonlinear properties of 2-Nitroaniline by Z-scan and f-scan techniques
K. Dinesh Babu, K. Murali, N. Karthikeyan and S. Karuppusamy
Laser Physics, 29, 095401, 2019
6. Development of novel Na₂Mg₃Zn₂Si₁₂O₃₀:Eu³⁺ red phosphor for white light emitting diodes
G.V. Kanmani, V. Ponnusamy, G. Rajkumar and M.T. Jose
Optical Materials, 96, 109350, 2019.
7. A development of new red phosphor based on europium doped as well as substituted Barium Lanthanum Aluminate (BaLaAlO₄: Eu³⁺)

- A. Azhagiri, V. Ponnusamy and R. Satheesh Kumar
Optical Materials, 90,127-138, 2019.
8. A study of charge density distribution and enhanced electrochemical properties of zinc cobaltite/polyaniline nanocomposite for supercapacitor application
V. Shanmugavalli, O. V. Saravanan, K. Vishista and R. Saravanan
Ionics, 25, 4393–4408, 2019.
 9. Multifaceted dynamics and gap solitons in PT -symmetric periodic structures
S. Vignesh Raja, A. Govindarajan, A. Mahalingam, and M. Lakshmanan
Physical Review A, 100, 033838, 2019.
 10. Nonlinear nonuniform PT-symmetric Bragg grating structures
S. Vignesh Raja, A. Govindarajan, A. Mahalingam, and M. Lakshmanan
Physical Review A, 100, 053806, 2019.
 11. Multi-soliton propagation in generalized inhomogeneous NLS equation with symmetric potentials
S. Vijayalekshmi, A. Mahalingam, A. Uthayakumar, M. S. Mani Rajan
Optik, 181, 948-955, 2019.
 12. Investigation on Microstructural, Electrical and Optical Properties of Nd-Doped BaCo_{0.01}Ti_{0.99}O₃ Perovskite
K. Madhan and R. Murugaraj
Journal of Electronic Materials, 49, 377–384, 2019.
 13. Metamagnetism emergence and spectroscopic elucidation of SmFeO₃ nanoceramics
A. Paul Blessington Selvadurai, R. Thiyagarajan, V. Pazhanivelu, R. Suriakarthick, Wenge Yang, R. Murugaraj and C. Venkateswaran
Journal of Physics D: Applied Physics, 52, 435002, 2019.
 14. Green synthesis, characterization of silver nanoparticles and their study on antibacterial activity and optical limiting behavior
B. Nisha, Y. Vidyalakshmi, D. Geetha, J. Ruhena Parveen, G. Vinitha
Applied Physics B, 125, 123, 2019.
 15. Investigations on the enhanced photocatalytic activity of (Ag, La) substituted nickel cobaltite spinels
A Sathiya Priya, D Geetha, K Karthik, M Rajamoorthy
Solid State Sciences, 98, 105992, 2019.

16. Effect of gadolinium concentration on the luminescence of LiYF₄: Yb³⁺/Er³⁺ phosphor
K Janani, S Ramasubramanian, R Thangavel, P Thiyagarajan
Solid State Sciences, 91, 119-125. 2019.
17. Effect of hydrostatic pressure and the emergence of half metallic ferromagnetism in rhodium oxide-A DFT+ U perspective
M Mohamed Sheik Sirajuddeen, M Sundareswari, I Raja Mohamed, S Begam Elavarasi, Ikram Un Nabi Lone, Nazir Ahmad Teli, Syed Rahmathulla, Mohammed Shoaib Hussain
Computational Condensed Matter, 21, e00425, 2019.
18. Investigations of the magnetic and dielectric behaviour of (Zr, Cu) co-doped BiFeO₃-BaTiO₃ composite
A Sathiya Priya, IB Shameem Banu, D Geetha, S Sankar
Materials Research Express, 6, 106116, 2019.
19. Tuning the optical properties of ZnO: Cd by doping La and Y
V. Padmavathy, S. Sankar
Superlattices and Microstructures, 128, 127-135, 2019.

YEAR OF PUBLICATION - 2020

1. N-H...O, C-H... O hydrogen-bonded supramolecular frameworks in 4-fluoroanilinium and dicyclohexylammonium picrate salts
K. Saminathan, R. Jagan and K. Sivakumar
Structural Chemistry, 31, 899–908, 2020.
2. Structural features and N-H...O and O-H...O hydrogen-bonded supramolecular frameworks in 2-methylanilinium hydrogen DL-malate hydrate, 4-methoxyanilinium and 4-methylanilinium hydrogen DL-malate salts
R. Jagan Rajamoni, K. Sivakumar
Structural Chemistry, 31, 917–925, 2020.
3. Effect of Nd on structural, optical and magnetic behaviour of TiO₂ nanoparticles
N Nithyaa, N Victor Jaya
Applied Physics A, 127, 69, 2020.
4. Structural, optical and magnetic properties of Gd/TiO₂-reduced graphene oxide nanocomposites
N Nithyaa, M Muralidharan, N Victor Jaya
Journal of Materials Science: Materials in Electronics, 31, 15118–15128, 2020.

5. N, S codoped activated mesoporous carbon derived from the Datura metel seed pod as active electrodes for supercapacitors
F. Regan Maria Sundar Raj, G. Boopathi , N. Victor Jaya , D. Kalpana and A. Pandurangan
Diamond & Related Materials, 102, 107687, 2020.
6. S-doped activated mesoporous carbon derived from the Borassus flabellifer flower as active electrodes for supercapacitors
F. Regan Maria Sundar Raj, N. Victor Jaya , G. Boopathi , D. Kalpana and A. Pandurangan
Materials Chemistry and Physics, 240, 122151, 2020.
7. Structure, morphology and luminescence properties of sol-gel method synthesized pure and Ag-doped ZnO nanoparticles
T. Chitradevi, A. Jestin Lenus and N. Victor Jaya
Materials Research Express, 7, 015011, 2020.
8. Optical and magnetic properties of pure and Er, Yb-doped beta-NaYF₄ (4) hexagonal plates for biomedical applications
S Namagal, N Victor Jaya, M Muralidharan, S Sumithra
Journal of Materials Science: Materials in Electronics, 31, 11398–11410, 2020.
9. Third-order optical nonlinearities of spray deposited l-glutamic acid thin films using Z-scan and f-scan
K Dinesh Babu, P Philominathan, K Murali
Journal of Materials Science: Materials in Electronics, 31, 17351-17364, 2020.
10. Prediction of structural, electronic and magnetic properties of full Heusler alloys Ir₂YSi (Y = Sc, Ti, V, Cr, Mn, Fe, Co, and Ni) via first-principles calculation
Roshme Prakash, G Kalpana
AIP Advances, 11, 015042, 2021.
11. A new perovskite type Ba₂YZrO₆: Eu³⁺ red phosphor with cubical morphology for WLEDs applications
G Rajkumar, V Ponnusamy, GV Kanmani, MT Jose
Journal of Luminescence, 227, 117561, 2020.
12. Tweaking the red emission, magneto, and dielectrical properties of perovskite type-LaFeO₃ in the presence of Co substitution
R. Ramesh Kumar, K. Vishista Kurapati, R. Tholkappiyan, M. Muralidharan, R. Suriakarthick, M. Dhilip, Fathalla Hamed
Journal of Materials Science: Materials in Electronics, 31, 7998–8014, 2020.

13. An Investigation on the Supercapacitive Performance of CuCo₂O₄/Polyaniline, a Nanocomposite of Spinel Structured Transition Binary Metal Oxide and Conducting Polymer, with a Special Focus on Bonding and Electron Density Distribution Through MEM
V. Shanmugavalli and K. Vishista
Journal of Inorganic and Organometallic Polymers and Materials, 30, pages 1448–1462, 2020.
14. Synthesis, structural, tunable-luminescence spectra and quenching behaviour of Sm³⁺ ions activated Ba_{1-x}BixTiO₃ phosphors for LED applications
A Arulmozhi, K Vishista, G Subalakshmi
Optik, 205, 164252, 2020.
15. Investigation of structural electron density distribution and enhanced electrochemical properties of spinel structured MnCo₂O₄/polyaniline nanocomposite prepared by facile and economical method
V Shanmugavalli and K Vishista
SN Applied Sciences, 2, 683, 2020.
16. Design of Hollow Nanosphere Structured Polypyrrole/Sn and SnO₂ Nanoparticles by COP Approach for Enhanced Electron Transport Behavior
G Sowmiya, G Velraj
Journal of Inorganic and Organometallic Polymers and Materials, 30, 5217–5223, 2020.
17. Designing a ternary composite of PPy-PT/TiO₂ using TiO₂, and multipart-conducting polymers for supercapacitor application
G Sowmiya, G Velraj
Journal of Materials Science: Materials in Electronics, 31, 14287–14294, 2020.
18. Self-Assembly and Temperature-Driven Chirality Inversion of Cholesteryl-Based Block Copolymers
K. Velmurugan, Wentao Qu, Changlong Chen, Haohui Huo, R. Karthick, G. Velraj, Georg H Mehl, Qilu Zhang, Feng Liu
Macromolecules, 53, 4193–4203, 2020.
19. Oscillating soliton propagation in SPNLS equation with symmetric potentials
S Vijayalekshmi, A Mahalingam, A Uthayakumar, MS Mani Rajan
Optik, 221, 165143, 2020.
20. Tailoring inhomogeneous PT-symmetric fiber-Bragg-grating spectra
S. Vignesh Raja, A. Govindarajan, A. Mahalingam, and M. Lakshmanan
Physical Review A, 101, 033814, 2020.

21. Structural, electrical, and weak ferromagnetic-to-antiferromagnetic nature of Ni and La co-doped BaTiO₃ by sol-gel combustion route
K. Madhan, R. Murugaraj
Journal of Sol-Gel Science and Technology, 95, 11–21, 2020.
22. Investigation on structural, optical, and electrical properties for sintered Mg–Zn aluminate systems
B. Jagadeeshwaran and R. Murugaraj
Journal of Materials Science: Materials in Electronics volume 31, 6744–6754, 2020.
23. Enrichment of optical, electrical, and magnetic properties of Li⁺, La³⁺ doped BaTiO₃ perovskite multifunctional ceramics
K. Madhan, R. Murugaraj
Applied Physics A, 126, 97, 2020.
24. Structural, Optical, Magnetic, and Electrical Properties of Ni_{0.5}Co_{0.5}Al₂O₄ System
C. Jagadeeshwaran and R. Murugaraj
Journal of Superconductivity and Novel Magnetism, 33, 1765–1772, 2020.
25. Enhanced formation of ruthenium oxide nanoparticles through green synthesis for highly efficient supercapacitor applications
B. Nisha, Y. Vidyalakshmi and Sirajunnisa Abdul Razack
Advanced Powder Technology, 31, 1001-1006, 2020.
26. Advanced micromorphology study of the Mn-doped bismuth ferrite thin films
A Sathiya Priya, D Geetha, Ștefan Țălu
Materials Letters, 281, 128615, 2020.
27. Tuning emission colour in Tm³⁺ doped Yb³⁺: KLnF₄ (Ln= Y, Yb and Gd) upconversion phosphors
K. Janani, S. Ramasubramanian, P. Thiyagarajan
Materials Today Proceedings, 33, 2082-2085, 2020.
28. A DFT investigation of electronic, elastic, and thermal properties of 3d transition metal carbides–TMC (TM= Sc–Zn)
Shobana Priyanka, M. Mohamed Sheik Sirajuddeen, S Begam Elavarasi
Computational Condensed Matter, 25, e00500, 2020.
29. Structural, electronic, magnetic and half-metallic properties of cubic perovskites NaBeO₃ and KBeO₃ using PBE-GGA and TB-mBJ approach: A DFT perspective
V Ashwin, M Basheer Ahamed, S Begam Elavarasi

Applied Physics A, 126, 880, 2020.

30. DFT calculations, Hirshfeld surface analysis and docking studies of 3-anisaldehyde thiosemicarbazone
M Guin, S Khanna, S Begam Elavarasi, P Sarkar
Journal of Chemical Sciences, 132, 81, 2020.
31. NMR, magnetic and electronic investigations of fluorinated nanotubes with different coverage of fluorine
S Begam Elavarasi, Srikanth Divya, Murugesan Vishnu Priya, Mohamed Sheik Sirajuddeen
Chemical Physics Letters, 742, 137142, 2020.
32. A DFT+ U study to report magnetic phase transition, electronic properties and half metallic ferromagnetism in palladium oxide using Hubbard method
M Mohamed Sheik Sirajuddeen, M Sundareswari, I Raja Mohamed, S Begam Elavarasi, Ikram Nabi Lone, Nazir ahmed Teli, S Syed Rahmathulla, Mohammed Shoaib Hussain
Materials Chemistry and Physics, 241, 122263, 2020.
33. Influence of rare earth (La and Y) codoping on optical properties of ZnO:Ag nanograins
V. Padmavathy, S. Sankar
Optik, 220, 165133, 2020.

YEAR OF PUBLICATION - 2021 (Till July)

1. Effect of Yb doping on structural, optical and induced ferromagnetism in SrSnO₃ perovskite nanostructures
M Muralidharan, S Selvakumar, K Sivakumar, K Sivaji
Physica B: Cond. Mat. 615. 413039, 2021.
2. Harnessing tipping points for logic operations
K Murali, Sudeshna Sinha, Vivek Kohar, William L Ditto
The European Physical Journal Special Topics, 1-7, 2021.
3. Construction of logic gates exploiting resonance phenomena in nonlinear systems
K Murali, S Rajasekar, Manoj V Aravind, Vivek Kohar, WL Ditto, Sudeshna Sinha
Philosophical Transactions of the Royal Society A, 379, 20200238, 2021.
4. Prediction of structural, electronic and magnetic properties of full Heusler alloys Ir₂YSi (Y = Sc, Ti, V, Cr, Mn, Fe, Co, and Ni) via first-principles calculation
Roshme Prakash, G Kalpana
AIP Advances, 11, 015042, 2021.

5. Ternary type BaY₂ZnO₅: Eu³⁺ deep-red phosphor for possible latent fingerprint, security ink and WLED applications
G Rajkumar, V Ponnusamy, GV Kanmani, MT Jose
Ceramics International, Accepted, 2021
6. Effect of bismuth ions on the photoluminescence properties of BaTiO₃: Dy³⁺ perovskite phosphors for LEDs application
A Arulmozhi, K Vishista, G Subalakshmi
Journal of Materials Science: Materials in Electronics, 32, 17136–17142, 2021.
7. Studies on the multiferroic properties and impedance analysis of (La, Cu) BiFeO₃ prepared by sol-gel method
A Sathiya Priya, D Geetha
Ferroelectrics, 573, 104-116, 2021.
8. Synthesis of Cobalt-Doped Bi₁₂NiO₁₉: Structural, Morphological, Dielectric and Magnetic Properties
M Rajamoorthy, D Geetha, A Sathiya Priya
Arabian Journal for Science and Engineering, 46, 737–744, 2021.
9. Tuning the structural and luminescence properties of LiYF₄: Yb, Er upconversion phosphor: understanding the role of K ion concentration
K Janani, S Ramasubramanian, Darbha V Ravikumar, P Thiyagarajan
Optik, 243, 167470, 2021.

B. PATENT PUBLICATIONS (YEAR 2015 ONWARDS):

1. WL Ditto, P Mohanty, S Sinha, AR Bulsara, D Guerra, K Murali
[Noise-assisted reprogrammable nanomechanical logic gate and method](#)
US Patent 9,276,564 (B1) Year: 2016